Nine Eagles™

Distributed by robbe

Operating Instructions

DRACO V5 RTF
2.4 GHz

No. NE2507V5

Safety Notes regarding LiPo batteries:

- Do not place the battery in water or any other liquid.
- Never heat or incinerate the pack, or place it in a microwave oven.
- Avoid short-circuits, and never charge the battery with reversed polarity
- Do not subject the battery to pressure or shock loads, and never distort or throw the pack
- Never solder directly to the battery.
- Do not modify or open the battery.
- Batteries must only be charged with a suitable charger; never connect the battery directly to a mains power supply.
- Never charge or discharge a battery in bright sunlight, or close to a heater or open fire.
- Do not use the battery in areas subject to high levels of static electricity.
- Never leave the battery on charge unsupervised.
- Do not charge the battery in an inflammable location, or on an inflammable surface.
- Any of these errors can result in damage to the battery, explosion or fire.
- Keep the battery away from children.
- If electrolyte should escape, do not expose it to fire, as the material is highly inflammable and may ignite.
- Do not allow fluid electrolyte to come into contact with eyes. If this should happen, flush with copious amounts of water and contact a doctor without delay.
- The fluid electrolyte can also be removed from clothing and other objects by rinsing with copious amounts of water.

LIABILITY EXCLUSION
Since robbe Modellsport is not in a position to monitor the handling of these batteries, we expressly deny all liability and guarantee claims where the batteries have been incorrectly charged, discharged or handled.

Explanation of specialist terms:

Motor speed ("Throttle"):
This controls the model's climb and descent.

Yaw:
The model's movement around the vertical axis; the helicopter rotates to right or left.

Pitch axis:
The model's movement around the lateral axis, forward or reverse flight

Roll:
The model's movement around the longitudinal axis, sideways movement to right or left

Mode 1:
Function assignment of control movements relative to the sticks.
In this case motor speed (throttle) and roll are controlled by the right-hand stick; pitch-axis and tail rotor by the left-hand stick.

Mode 2:
Function assignment of control movements relative to the sticks.
In this case motor speed (throttle) and tail rotor are controlled by the left-hand stick; pitch-axis and roll by the right-hand stick.

Dual-Rates:
Switchable travel reduction for control movements.

Binding:
Creating the radio link between transmitter and receiver.

Contents

	Page
Safety Notes regarding LiPo batteries	2
Explanation of specialist terms / Contents	3
Safety Notes	4, 5
Set contents / Specification	6
Transmitter settings, Mode 1 and Mode 2	7
Reduced and expanded control functions	8
Converting the transmitter from Mode 1 to Mode 2	8
Charging the battery	9
Flight preparation	9
Trim adjustments in Mode 1 / Mode 2	10
Controlling the model in Mode 1 or Mode 2	11
Binding the transmitter	12
Preparations for the first flight	12
Important notes	13
The first flights	13
Replacement Parts list DRACO V5 RTF 2.4 GHz	14, 15
Conformity information	16

Be sure to read these Safety Notes before you operate your model. Always keep to the procedures and settings recommended in the instructions.

If you are operating a radio-controlled model aircraft, helicopter, car or boat for the first time, we recommend that you enlist an experienced modeller to help you.

Safety Notes

Radio-controlled models are not toys in the usual sense of the term. Young persons under fourteen years should only be allowed to operate them under the supervision of an adult.

Building and operating these models requires technical expertise, manual skills, a careful attitude and safety-conscious behaviour.

Errors, negligence and omissions in building or flying these models can result in serious personal injury and damage to property.

Since the manufacturer and vendor are not in a position to check that your models are built and operated correctly, all we can do is bring these hazards expressly to your attention. We deny all further liability.

Helicopter rotors, and all moving parts generally, constitute a constant injury hazard. It is essential to avoid touching such parts.

Please bear in mind that motors and speed controllers may become hot when operating. It is important to avoid touching these parts.

Do not stand close to the hazard area around rotating parts when an electric motor is connected to the flight battery.

You must also take care to keep all other objects away from moving or rotating parts.

Observe the instructions provided by the battery manufacturer.

Overcharged or incorrectly charged batteries may explode. Take care to maintain correct polarity.

Notes on the use of dry cells:

Do not attempt to recharge dry cells, do not open them, and do not incinerate them. Remove exhausted dry cells from the transmitter after use. Escaped electrolyte may ruin the transmitter.

Ensure the equipment is protected from dust, dirt and moisture contamination. Do not subject the system to excessive heat, cold or vibration.

Use the recommended charger only, and charge the batteries only for the prescribed period.

Check your equipment for damage at regular intervals, and replace defective components with genuine spare parts.

Do not re-use any devices which have been damaged in a crash or by water, even when they have dried out again.

Send the equipment to the robbe Service Department for checking, or replace the parts in question.

Crash or water damage can result in concealed defects which may lead to failure in subsequent use.

Use only those components and accessories which we specifically recommend.

Do not carry out modifications to the radio control system components apart from those described in the instructions.

Operating the model

Caution - injury hazard:
Please keep your model helicopter - including small co-axial and single-rotor models - a safe distance away from yourself and others. Never fly over spectators, other pilots or yourself. Always fly manoeuvres facing away from other pilots and spectators. Please note that model helicopters generally, and aerobatic types in particular, are subject to enormous flight loads, and that interference cannot be ruled out even when you are using the best possible radio control system components. Operating these models requires a highly responsible attitude and all possible safety precautions for pilot and spectators.

- Never fly over spectators or other pilots, and maintain a safe distance from them at all times.
- Never endanger people or animals.
- Never fly close to high-tension overhead cables or residential areas.
- Do not operate your model in the vicinity of canal locks or open waterways.
- Do not operate your model from public roads, motorways, paths and squares etc.; use authorised model flying sites only.
- **Never operate the model in stormy weather.**

Never “point” the transmitter aerial straight at the model when operating it. The transmitter signal is at its weakest in this direction. It is always best to stand with the long side of the aerial angled towards the model.

Insurance

Ground-based models are usually covered by standard personal third-party insurance policies. In order to fly model aircraft you will need to extend the cover of your existing policy, or take out specific insurance.
Check your insurance policy and take out new cover where necessary.

Liability exclusion:

robbe Modellsport is unable to ensure that you observe the assembly and operating instructions, or the conditions and methods used for installing, operating and maintaining the model components.
For this reason we accept no liability for loss, damage or costs which are due to the erroneous use and operation of our products, or are connected with such operation in any way.

Regardless of the legal argument employed, our obligation to pay compensation is limited to the invoice value of those robbe products directly involved in the event in which the damage occurred, unless otherwise prescribed by law. This does not apply if the company is deemed to have unlimited liability according to statutory regulation due to deliberate or gross negligence.

Set contents - DRACO V5 RTF:

- Co-axial helicopter, completely assembled and set up, ready to fly
- LiPo battery, 3.7 V / 110 mAh
- 2.4 GHz four-channel transmitter with flight battery charge function
- 4 x AA-size dry cell
- Screwdriver
- German operating instructions
  (Instructions in other languages can be downloaded from www.robbe.com)

Dear customer,

Congratulations on choosing a factory-assembled model helicopter from our range. Many thanks for placing your trust in us.

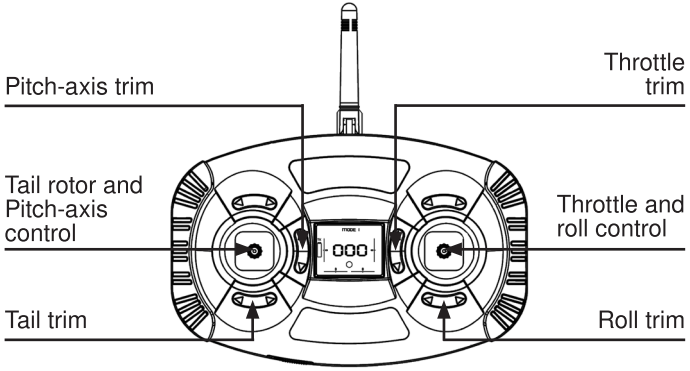
The model can be completed and made ready to fly very quickly. Please read right through these instructions before attempting to fly the model for the first time , as this will make it much easier to operate the model safely.

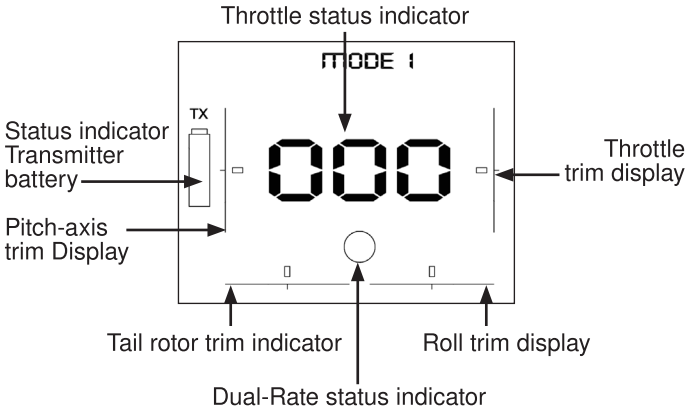
All directions, such as “right-hand”, are as seen from the tail of the model, looking forward.

Specification:

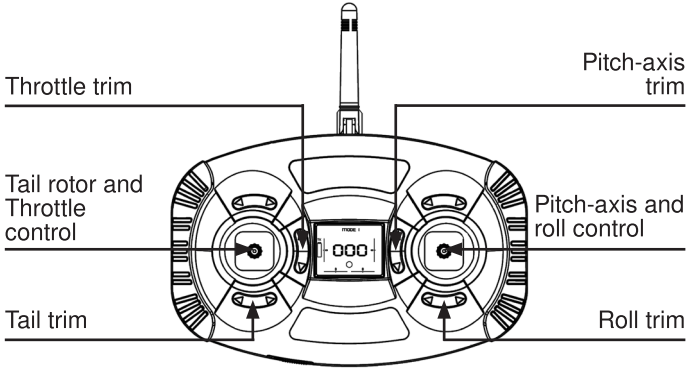
Rotor diameter:	190 mm
Overall length:	188 mm
Weight:	approx. 31 g
Co-axial rotor motors:	2 x 6 mm
Power supply:	LiPo battery, 3.7 V / 110 mAh

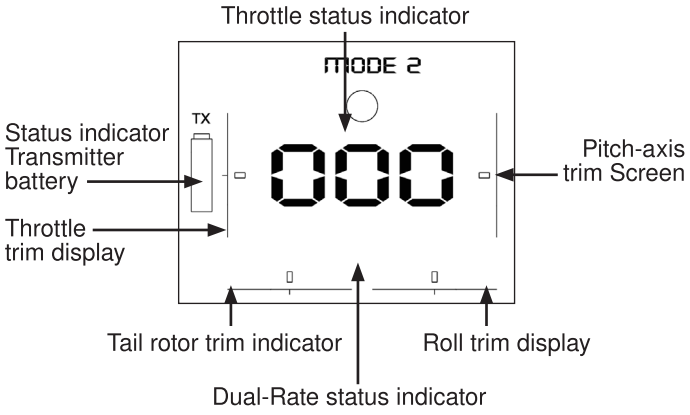
Transmitter settings, Mode 1:





Transmitter settings, Mode 2 (as supplied):

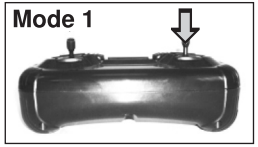




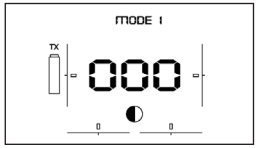
"Primary" and "expanded" control function settings

The transmitter offers the facility to adjust the sensitivity of the stick movements. We recommend "softer" reduced travels for beginners.
Open the transmitter battery compartment and insert the four AA cells* (check for correct polarity).

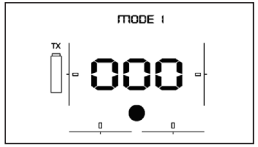
Switching sensitivity:



Switch the transmitter on, and press the right-hand stick inward.



Reduced control function
The "Dual-Rate status indicator" disc on the screen is reduced to half.



Expanded control function:
Press the right-hand stick inward again. The full black disc now appears on the screen.

If you have converted the transmitter to Mode 1, the left-hand stick must be pressed in.

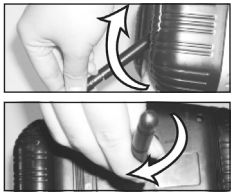
*** Please read the information regarding dry cells on page 9.**

Converting the transmitter from "Mode 2" (throttle left) to "Mode 1" (throttle right)

The transmitter is supplied set to Mode 2 as standard. If you prefer Mode 1 and wish to convert the transmitter to that mode, use this procedure:

The transmitter must be switched off.

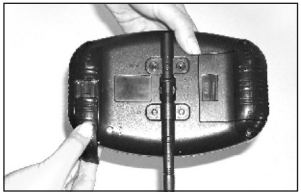
Release the clip over the aerial using a cross-point screwdriver.

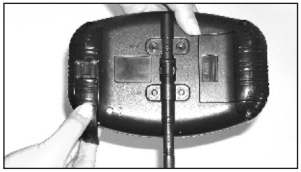


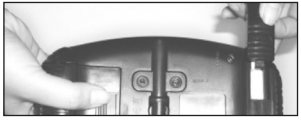
Raise the aerial out of its recess and set it at 90°. Now turn the aerial through 180° and place it in the recess again, pointing in the opposite direction.

Place the clip over the aerial and screw it in place. Re-positioning the aerial in this way shifts throttle control to the right-hand side. Switch the transmitter on, and pull the throttle trim back (towards you). Check the new stick mode (Mode 1).

Charging the flight battery using the transmitter







The system can only work reliably if the transmitter batteries are fully charged.
Open the cover of the transmitter battery compartment. Slide the flight battery into the charge compartment. Switch the transmitter on: the green LED on the transmitter now lights up to indicate that charging is in progress. The battery is fully charged when the green LED goes out. Remove the battery, close the transmitter, and switch it off.

Safety Notes

Do not operate your charger and batteries on an inflammable surface, and do not leave the equipment running unsupervised. Protect from damp. Do not subject it to direct sunshine, and do not cover the charger.
Do not charge batteries that are hot to the touch. Allow batteries to cool down to ambient temperature.

Flight preparation

Open the transmitter battery compartment and insert the four AA cells* (check for correct polarity).

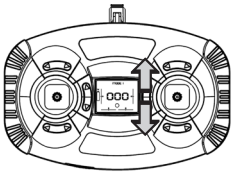
Switch the transmitter on (Fig. 1). The battery status is shown is shown on the right of the screen. Move the throttle stick and trim to the lowest position (towards you), otherwise the motors will not start.
Fit the charged LiPo flight battery in the support frame on the helicopter, with the plastic tab facing up, in the direction of the arrow (Fig. 2).

*Notes on the use of dry cells:

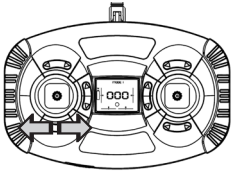
Do not attempt to recharge dry cells, do not open them, and do not incinerate them. Remove exhausted dry cells from the transmitter after use. Escaped electrolyte may ruin the transmitter.

Trim settings, Mode 1

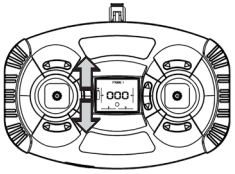
Throttle trim:
If the rotors start to spin without the throttle stick being touched, or do not respond to stick movements, you must adjust the throttle trim until they stop moving.



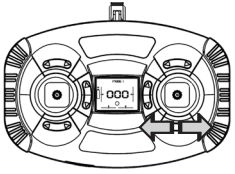
Tail rotor trim:
If the model's nose turns to right or left when it lifts off, adjust the tail rotor trim buttons to correct the rotation until the model maintains a stable heading.



Pitch-axis trim:
If the model flies forward or back when it lifts off, adjust the pitch-axis trim until it hovers over one point.

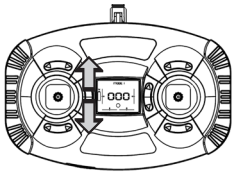


Roll trim:
If the model moves bodily to left or right when it lifts off, adjust the roll trim until it remains in a stable hover.

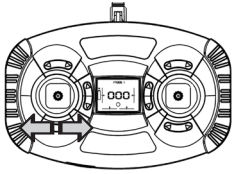


Trim settings, Mode 2

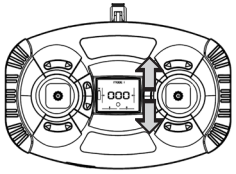
Throttle trim:
If the rotors start to spin without the throttle stick being touched, or do not respond to stick movements, you must adjust the throttle trim until they stop moving.



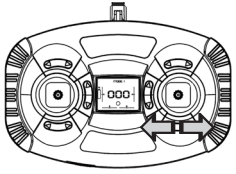
Tail rotor trim:
If the model's nose turns to right or left when it lifts off, adjust the tail rotor trim buttons to correct the rotation until the model maintains a stable heading.



Pitch-axis trim:
If the model flies forward or back when it lifts off, adjust the pitch-axis trim until it hovers over one point.

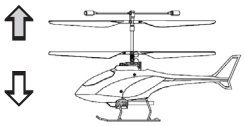


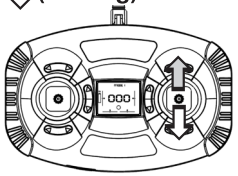
Roll trim:
If the model moves bodily to left or right when it lifts off, adjust the roll trim until the model remains in a stable hover.



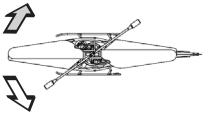
Controlling the model in Mode 1

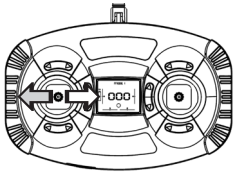
Throttle up (take-off) ⇧ Throttle closed ⇩ (landing):



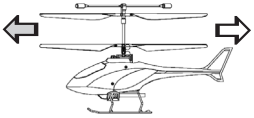


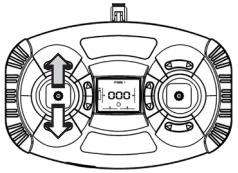
Right turn ⇦ Left turn ⇨:



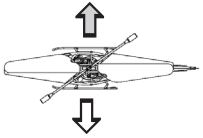


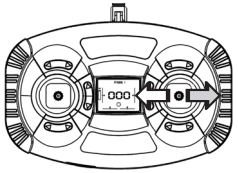
Pitch forward ⇧ Pitch back ⇩:





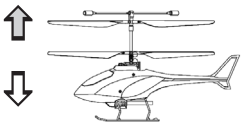
Right roll ⇨ Left roll ⇦:

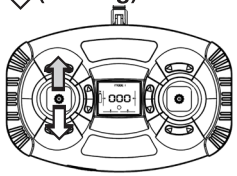




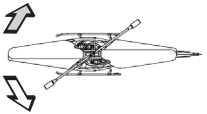
Controlling the model in Mode 2

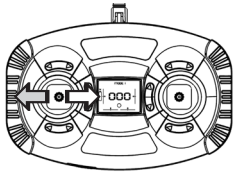
Throttle up (take-off) ⇧ Throttle closed ⇩ (landing):



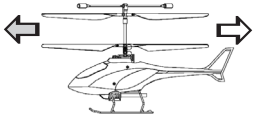


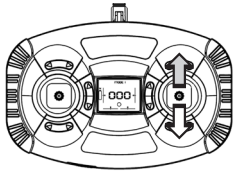
Right turn ⇦ Left turn ⇨:



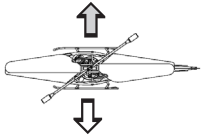


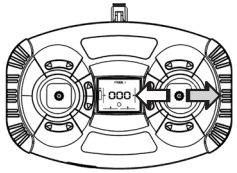
Pitch forward ⇧ Pitch back ⇩:





Right roll ⇨ Left roll ⇦:

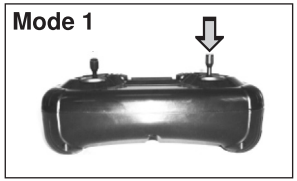


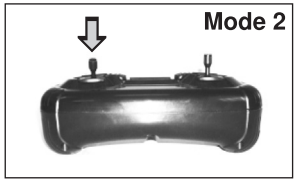


Re-binding the transmitter

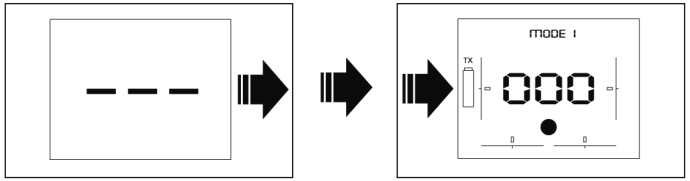
This procedure is only necessary after replacing individual components.

Move the throttle stick to the Idle position.





Hold the throttle stick pressed in while you switch the transmitter on. The screen now flashes. Slide the LiPo battery into the helicopter and connect it. Now leave the model untouched for at least three seconds.
Note: if you have converted the transmitter to Mode 1, you must press in the right-hand stick.



When the re-binding process is complete, the screen stops flashing and reverts to the normal display.

This point is very important:
Do not move the model for a minimum of three seconds during the binding process.

Checking the working systems
Before the first flight it is important to set all the trims - except for the throttle trim - to centre. The throttle stick must be in the "fully back" position (towards you). If the rotor blades turn, adjust the throttle trim until the rotor blades come to a halt.

Preparations for the first flight

Ideally the first flight should take place in a large indoor space devoid of obstructions. If you have to fly the model in the open air, wait for a day with **totally flat calm conditions**.

Charge the flight battery before flying.

Important Notes

Take-off: raise the rotor speed slowly and steadily until the model hovers at eye-level. At the same time adjust the trims until the helicopter flies stably and hovers over one point. At low height (approx. 10 - 15 cm above the ground) the model cannot be trimmed accurately due to the turbulence generated by the rotor.

Landing: slowly and steadily reduce the throttle setting until the model descends and touches down. Never reduce the throttle setting abruptly.
After the landing disconnect the flight battery from the receiver, and only then switch the transmitter off.

Caution: Stopping (obstructing) the rotor blades when they are turning can cause serious damage to the mechanical system, and may even result in a fire. Immediately move the throttle stick to Idle if this should happen.

Note regarding the flight battery: as soon as you notice a reduction in motor power, land immediately and disconnect the battery. Never continue flying until the battery is flat, as this causes a deep-discharge condition which results in permanent damage. Allow the battery to cool down before recharging it.

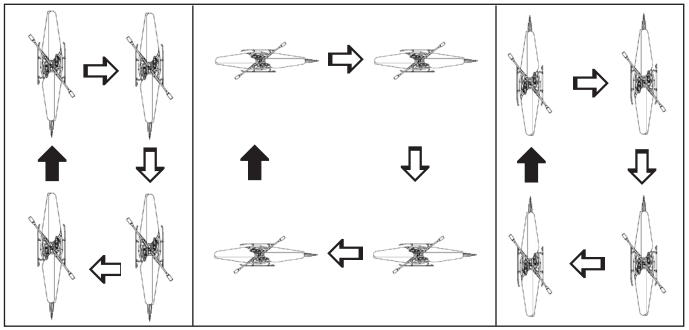
Replacing the rotor blades: if a rotor blade is damaged, replace it immediately. When fitting the new rotor blade, tighten the retaining screw just to the point where the blade still swivels smoothly.

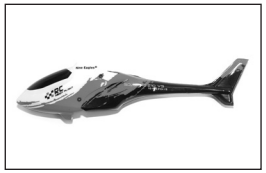
The first few flights

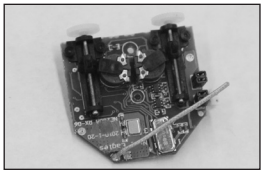
Once the model is properly trimmed, you can practise hovering, and carry out manoeuvres such as circles, squares, rectangles and figures-of-eight.

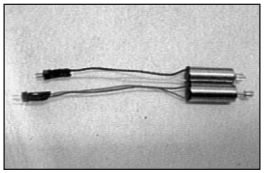
Initially it is always best to stand about two metres away from the model, behind or at right-angles to it; this avoids giving incorrect control commands.
You can fly a square pattern by alternating the direction of flight: away from the pilot, to the pilot's right, and then towards the pilot again.

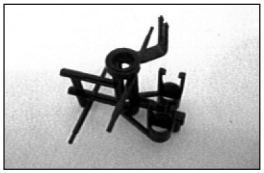
Tip: when the helicopter is flying with the nose pointing towards you, the controls are reversed (apart from the throttle control).

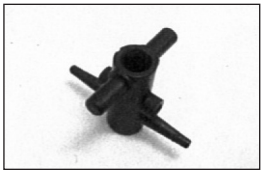


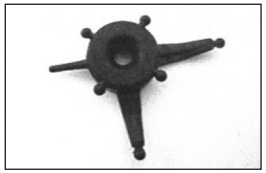

NE250720

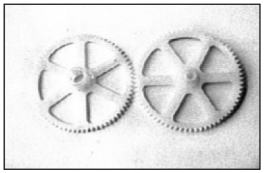

NE250721

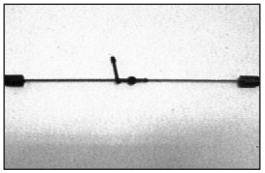

NE250003

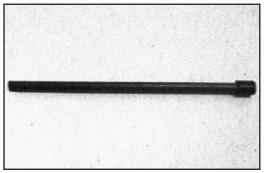

NE250004

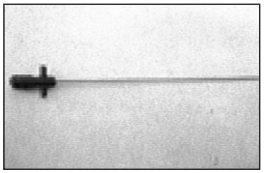

NE250005

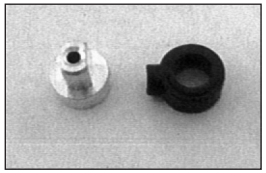

NE250006

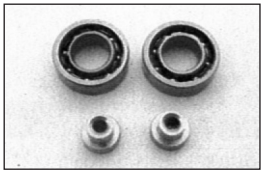

NE250007

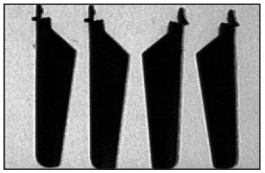

NE250008

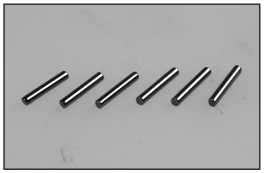

NE250009

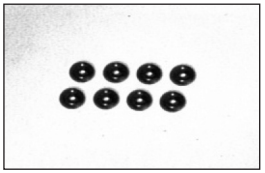

NE250010

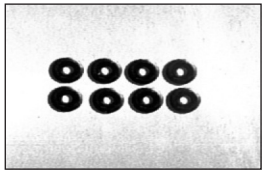

NE250012

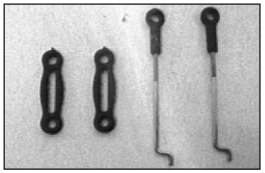

NE250013

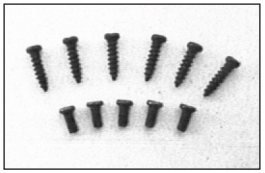

NE250016

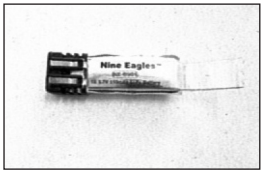

NE250017


NE250020

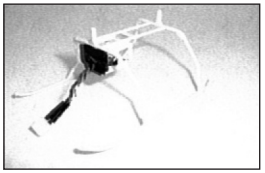

NE250021


NE250710


NE250714



NE250718


NE251003

Replacement Parts list -DRACO V5 RTF 2.4 GHz

Order No.	Description
NE250720	Canopy
NE250721	Receiver set
NE250003	Motor set
NE250004	Main frame
NE250005	Blade connecting piece
NE250006	Swashplate set
NE250007	Main gearwheel
NE250008	Flybar
NE250009	Outer rotor shaft
NE250010	Inner rotor shaft
NE250012	Flange
NE250013	Ballrace set
NE250016	Main rotor blades
NE250017	Flybar pin
NE250020	Rubber grommets set 1, pack of 8
NE250021	Rubber grommets set 2, pack of 8
NE250710	Pushrod set
NE250714	Screw set
NE250718	LiPo battery, 3.7 V / 110 mAh
NE251003	Landing gear

When replacing components it is very important to use the correct type of cross-point screwdriver and to tighten the screws with great care.

Do not use thread-lock fluid!

robbe Modellsport GmbH & Co.KG hereby declares that this device fulfils the fundamental requirements and other relevant regulations of the appropriate CE directives. The original Conformity Declaration can be found on the Internet at www.robbe.com. Please select the specific device description, then move to “Downloads” and select “Conformity Declaration”.

This symbol means that you should dispose of electrical and electronic equipment separately from the household waste when it reaches the end of its useful life. Take your unwanted equipment to your local council collection point or recycling centre. This requirement applies to member countries of the European Union as well as other non-European countries with a separate waste collection system.

Disposal of batteries

Batteries must not be discarded as domestic refuse. To protect the environment, always return exhausted or defective cells to your local recycling centre. These include retail sales outlets for batteries, and communal toxic waste disposal centres. Cover any bare wires with insulating tape in order to avoid short-circuits.

robbe Modellsport GmbH & Co.KG

Metzloserstraße 38 · D-36355 Grebenhain
Technical hotline: +49 (0)66 44 / 87-777 · hotline@robbe.com
Commercial register: Gießen Regional Court HRA 2722
Partner with personal liability:
robbe Modellsport Beteiligungs GmbH Gießen / HRB 5793 · Managing Director: Philip Janssen

Errors and technical modifications reserved. - Copyright robbe Modellsport 2014
Duplication and copying of the text, in whole or in part, is only permitted with the prior written approval of robbe Modellsport GmbH & Co. KG